

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-5 (Cancelled).

Claim 6 (Previously presented): Machining equipment for an integrated piping plate composed of a plurality of plates joined together, and in which

an instrument and a component constituting an apparatus are disposed, or the instrument is disposed, or the component is disposed, on one of or both of surfaces of the integrated piping plate, and

the instrument and the component are connected, or the instrument is connected, or the component is connected, by fluid channel grooves formed in joining surfaces of the plates, and communication holes formed in the plates, and comprising:

plate supply means for supplying the plates having the fluid channel grooves, or the communication holes, or the fluid channel grooves and the communication holes, formed therein beforehand;

weld groove machining means for forming grooves for weld grooves in the plates, which have been supplied by the plate supply means, so as to extend along entire periphery of the fluid channel grooves, the plate supply means supplying one plate from one direction and superimposing the same on another plate supplied from another direction; and

welding means which, in succession to machining of the grooves for the weld grooves by the weld groove machining means, welds the grooves for the weld grooves to weld the joining surfaces of the superimposed plates around the entire periphery of the fluid channel grooves, thereby joining the plates.

Claim 7 (Previously presented): Machining equipment for an integrated piping plate composed of a plurality of plates joined together, and in which

an instrument and a component constituting an apparatus are disposed, or the instrument is disposed, or the component is disposed, on one of or both of surfaces of the integrated piping plate, and

the instrument and the component are connected, or the instrument is connected, or the component is connected, by fluid channel grooves formed in joining surfaces of the plates, and communication holes formed in the plates, and comprising:

plate supply means for supplying the plates;

machining means for forming the fluid channel grooves, or the communication holes, or the fluid channel grooves and the communication holes, in the plates supplied by the plate supply means;

weld groove machining means for forming grooves for weld grooves in the plates, which have been machined by the machining means, so as to extend along entire periphery of the fluid channel grooves, the plate supply means supplying one plate from one direction and superimposing the same on another plate supplied from another direction; and

welding means which, in succession to machining of the grooves for the weld grooves by the weld groove machining means, welds the grooves for the weld grooves to weld the joining surfaces of the superimposed plates around the entire periphery of the fluid channel grooves, thereby joining the plates.

Claim 8 (Cancelled).

Claim 9 (Previously presented): Machining equipment for an integrated piping plate composed of a plurality of plates joined together, and in which

an instrument and a component constituting an apparatus are disposed, or the instrument is disposed, or the component is disposed, on one of or both of surfaces of the integrated piping plate, and

the instrument and the component are connected, or the instrument is connected, or the component is connected, by fluid channel grooves formed in joining surfaces of the plates, and communication holes formed in the plates, and comprising:

plate supply means for supplying the plates having the fluid channel grooves, or the communication holes, or the fluid channel grooves and the communication holes, formed therein beforehand, the plate supply means supplying one plate from one direction and superimposing the same on another plate supplied from another direction; and

friction stir welding means for welding the joining surfaces of the superimposed plates, which have been supplied by the plate supply means, around entire periphery of the fluid channel grooves, thereby joining the plates.

Claim 10 (Previously presented): Machining equipment for an integrated piping plate composed of a plurality of plates joined together, and in which

an instrument and a component constituting an apparatus are disposed, or the instrument is disposed, or the component is disposed, on one of or both of surfaces of the integrated piping plate, and

the instrument and the component are connected, or the instrument is connected, or the component is connected, by fluid channel grooves formed in joining surfaces of the plates, and communication holes formed in the plates, and comprising:

plate supply means for supplying the plates;

machining means for forming the fluid channel grooves, or the communication holes, or the fluid channel grooves and the communication holes, in the plates supplied by the plate supply means, the plate supply means supplying one plate from one direction and superimposing the same on

another plate supplied from another direction; and

friction stir welding means for welding the joining surfaces of the superimposed plates, which have been machined by the machining means, around entire periphery of the fluid channel grooves, thereby joining the plates.

Claims 11-12 (Cancelled).

Claim 13 (Previously presented): The machining equipment of claim 6, 7, 9 or 10, further comprising:

control means for performing numerical control as tracer means for machining.

Claims 14-47 (Cancelled).

Claim 48 (Currently Amended): A machining apparatus for an integrated piping plate, ~~which superimposes~~ arranged so as to superimpose a second plate on a first plate having fluid channel grooves machined in a joining surface, and friction stir ~~[[welds]]~~ weld the first plate and the second plate, comprising:

friction stir welding means which, in welding the first plate and the second plate, is arranged to insert ~~inserts~~ a tip tool of a friction stir welding machine only into the second plate up to a position where the first plate and the second plate can be welded by frictional heat generated by rotating the

tip tool, and ~~moves~~ move the tip tool while following an outer periphery of the fluid channel grooves, ~~thereby~~ so as to enable friction stir welding the joining surfaces of the first plate and the second plate around the entire periphery of the fluid channel grooves, to join the first plate and the second plate.

Claim 49 (Currently Amended): Machining equipment for an integrated piping plate, ~~which superimposes~~ arranged to superimpose a second plate on a first plate having fluid channel grooves machined in a joining surface , and friction stir ~~welds~~ weld the first plate and the second plate, comprising:

plate supply means for supplying the first plate having the fluid channel grooves formed therein beforehand, and the second plate; and

friction stir welding means which, in welding the first plate and the second plate supplied by the plate supply means, ~~inserts~~ is arranged to insert a tip tool of a friction stir welding machine only into the second plate up to a position where the first plate and the second plate can be welded by frictional heat generated by rotating the tip tool, and ~~moves~~ to move the tip tool while following an outer periphery of the fluid channel grooves, ~~thereby~~ so as to enable friction stir welding the joining surfaces of the first plate and the second plate around the entire periphery of the fluid channel grooves, to join the first plate and the second plate.

Claim 50 (Currently Amended): Machining equipment for an integrated piping plate, ~~which superimposes~~ arranged to superimpose a second plate on a first plate having fluid channel grooves machined in a joining surface, and friction stir ~~welds~~ weld the first plate and the second plate, comprising:

plate supply means for supplying the first plate and the second plate;

machining means for forming the fluid channel grooves in the first plate supplied by the plate supply means; and

friction stir welding means which, in welding the first plate machined by the machining means, and the second plate, ~~inserts~~ is arranged to insert a tip tool of a friction stir welding machine only into the second plate up to a position where the first plate and the second plate can be welded by frictional heat generated by rotating the tip tool, and ~~moves~~ to move the tip tool while following an outer periphery of the fluid channel grooves, ~~thereby so as to enable~~ friction stir welding the joining surfaces of the first plate and the second plate around the entire periphery of the fluid channel grooves, to join the first plate and the second plate.